

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, DC 20554

In the matter of Annual Certification )  
of Federal Universal Service Funding ) CC Docket 96-45  
for Eligible Telecommunications )  
Carriers in Virginia )

VIRGINIA PCS ALLIANCE, L.C. AND RICHMOND 20 MHz, LLC (NTELOS)

**ANNUAL CERTIFICATION REGARDING USE OF FEDERAL  
UNIVERSAL SERVICE SUPPORT**

In the above captioned docket, the Commission ordered Virginia Eligible Telecommunications Carriers (ETCs) to file by October 1, 2007 certain data regarding the use of Federal Universal Service Fund (USF) support. Virginia PCS Alliance and Richmond 20MHz (d.b.a. "NTELOS"), hereby submit the information requested by the Commission and also certifies that the use of Universal Service funding is for the purposes intended.

**1) Certify that ETC will use universal service funds received in 2008 only for the provision, maintenance and upgrading of facilities and services for which such support is intended:**

Included as Exhibit A is the Affidavit of Carl Rosberg certifying the use of the federal high cost support that will be received by NTELOS in 2008.

**2) Certify that ETC's basic rates in rural areas of the Commonwealth of Virginia served by non-rural incumbent local exchange carriers are reasonably comparable to urban rates;**

Also included in Exhibit A is the urban rate benchmark study data for NTELOS, showing how NTELOS' basic rates compare to the urban rate benchmark of \$34.58. Note that this is the urban rate benchmark released in 2006. The 2007 figure had not been released as of the date this filing was made.

**3) Provide progress reports on the ETC's five-year service quality improvement plan, detailing progress towards meeting its plan targets; an explanation of how much universal service support was received and how the support was used to improve signal quality, coverage, or capacity; and an explanation regarding any network improvement targets that have not been fulfilled. The information should be submitted at the wire center level;**

Attached as Exhibit B is the NTELOS five-year plan demonstrating the use of universal service support received for ETC designated areas in Virginia. NTELOS received \$1,145,781 for 2006 high-cost universal service support for the Commonwealth of Virginia. A map of NTELOS' planned build out is also attached.

**4) Provide detailed information on any outage lasting at least 30 minutes, for any service area in which an ETC is designated for any facilities it owns, operates, leases, or otherwise utilizes that potentially affect at least ten percent of the end users served in a designated service area, or that potentially affect a 911 special facility. Annual report must include: (1) the date and time of onset of the outage; (2) a brief description of the outage and its resolution; (3) the particular services affected; (4) the geographic areas affected by the outage; (5) the steps taken to prevent a similar situation in the future; and (6) the number of customers affected;**

Attached as Exhibit C is the Outage Report of NTELOS for 2006 with the data requested.

**5) Detail the number of requests for service from potential customers within its service areas that were unfulfilled for the past year. The ETC must also detail how it attempted to provide service to those potential customers;**

NTELOS had no unfulfilled service requests in its service areas in 2006.

**6) Detail the number of complaints per 1,000 handsets or lines;**

For 2006, NTELOS had an average of 140.41 tickets per 1,000 customers. The ticket counts include not only complaints, but a multitude of other issues and technical questions such as dropped calls, handset issues, multimedia/data/voicemail problems, no signal, outages, roaming issues and sound quality. This is an increase over the tickets per 1,000 customers from 2005 but the increase is the result of an internal process change that required our customer care team to log all inquiries from customers for the issues above as tickets for tracking purposes.

**7) Certify that the ETC is complying with applicable service quality standards and consumer protection rules, e.g., the CTIA Consumer Code for Wireless Service;**

NTELOS has adopted the CTIA Consumer Code and provides customer service based on the principles of the Code. NTELOS also adheres to all applicable state and federal laws.

**8) Certify that the ETC is able to function in emergency situations;**

NTELOS has a Disaster Preparedness Plan that thoroughly outlines the processes and procedures setup to handle any emergency situation that may arise. The Plan covers the steps in place to mitigate risks, prepare for potential emergency situations, respond to emergencies, and recover from any damage as a result of the emergency. Such steps defined for minimizing risk and preparing for emergencies include defining roles and responsibilities in an emergency situation, assessing potential threats and vulnerabilities, developing emergency checklists, conducting annual disaster training, designing an Emergency Operations Center for use in case of an emergency, power loss planning and creating notification procedures. The response and recovery plan includes defining members of teams needed to handle the situation, describing their roles in an emergency as well as maintaining event logs to record information pertaining to the disaster.

**9) Certify that the ETC is offering local usage plans comparable to those offered by the incumbent local exchange carrier (LEC) in the relevant service areas;**

NTELOS offers calling plans that are superior to the LEC. NTELOS' calling area is larger than the local calling scope provided by the incumbent wireline company. Calling features such as caller ID, voicemail and call waiting are all standard services included with the calling plans.

**10) Certify that ETC acknowledges that the Commission may require it to provide equal access to long distance carriers in the event that no other eligible telecommunications carrier is providing equal access within the service area.**

NTELOS acknowledges that it may be required to provide equal access if no other ETC in the designated service area is providing equal access.

**11) Provide the Study Area Code (SAC), whether the filer is a Rural Carrier and/or a Non-Rural Carrier, and whether the filer is an Incumbent or a Competitive Carrier.**

The Study Area Code (SAC) for NTELOS is 199008. NTELOS is a Non-Rural, Competitive carrier.

**EXHIBIT A**

**AFFIDAVIT**

**AFFIDAVIT OF CARL ROSBERG IN SUPPORT**  
**OF VIRGINIA PCS ALLIANCE, L.C.'S AND RICHMOND 20 MHZ, LLC'S**  
**USE OF FEDERAL UNIVERSAL SERVICE SUPPORT**

STATE OF VIRGINIA

CITY OF WAYNESBORO

I, Carl Rosberg, declare as follows:

- 1.) I am employed by NTELLOS Inc. as its President – Wireless. I am an officer of Virginia PCS Alliance, L.C. and Richmond 20 MHZ LLC and am authorized to give this affidavit on its behalf.
- 2.) Under 47 C.F.R. [§ 54.313/§ 54.314], the Commission is required to submit an annual certification to the Federal Communications Commission (“FCC”) and the Universal Service Administrative Company (“USAC”), certifying that rural and non-rural incumbent local exchange carriers and/or eligible telecommunications carriers serving lines in the service area of a rural and non-rural incumbent local exchange carrier within the Commonwealth of Virginia will use federal high-cost universal service support in a manner consistent with section 254(e) of the Telecommunications Act of 1996 (the “Act”), 47 U.S.C. § 254(e). Absent such certification, such carriers will not receive universal service support. In order for carriers to receive federal support beginning January 1 of each year, the Commission’s certification must be filed with the FCC and USAC by October 1 of the preceding year.
- 3.) NTELLOS Inc. hereby certifies that the federal high-cost universal service support Virginia PCS Alliance, L.C. and Richmond 20 MHZ LLC will receive in 2008 will be used for the services and functionalities outlined in 47 C.F.R. § 54.101(a), and that it will only use the federal high-cost support it receives for the provision,

maintenance and upgrading of facilities and services for which such support is intended, consistent with section 254(e) of the Act. NTELOS operates under Study Area Code (SAC) 199008 and is a Non-Rural, Competitive carrier.

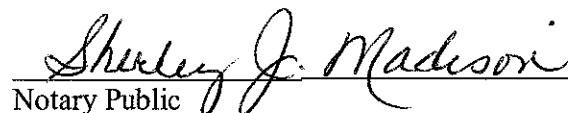
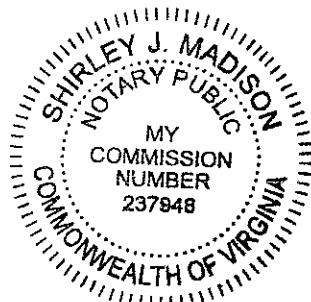
4.) Also, pursuant to 47 C.F.R. §54.316, the Commission is required to certify to the FCC and USAC that NTELOS' basic rates in rural areas of the Commonwealth of Virginia served by non-rural incumbent local exchange carriers are reasonably comparable to urban rates in order that NTELOS can receive universal service support in 2008. Based upon the rate comparison shown in the comparability analysis below, which comparison is based upon the rate template included in the Stipulation, NTELOS' basic rates in rural areas are comparable to the FCC's current urban rate benchmark of \$34.58. Note that this is the urban rate benchmark released in 2006 as the 2007 figure had not been released as of the date of this filing.

FURTHER AFFIANT SAYETH NOT.



Carl Rosberg  
President – Wireless  
NTELOS Inc.

Subscribed and sworn to before me this 14<sup>th</sup> day of September, 2007.



Shirley J. Madison

My commission expires: Sept. 30, 2008

Comparison of Virginia PCS Alliance and Richmond 20MHz LLC (“NTELOS”) Rates in Rural Wire Centers to National Urban Rate Benchmark – Virginia

<u>Charge or Credit</u>	<u>Plan Amount</u>
Monthly Line Charge- 100 anytime minutes package	\$19.99
Monthly Average Usage	\$0.99
Regulatory Cost Recovery Fee *	\$2.48
Wireless E-911 Fee	\$0.75
Subtotal	\$24.21
Federal Excise Tax	\$0.00
<b>TOTAL</b>	<b>\$24.21</b>
National Urban Rate Benchmark – 2006 figure**	\$34.58
Amount below the Benchmark	\$10.37

\*The Regulatory Cost Recovery Fee is comprised of two elements. The first is a \$1.12 charge relating to the recovery of government mandated regulatory programs including Wireless Number Portability and Universal Service. The second is a \$1.36 charge that is assessed for Sales Tax Surcharge, GPS service fee and an Interconnect fee.

\*\*The 2007 National Urban Rate Benchmark had not been released as of the date this filing was made so the 2006 figure was used for the calculation.

**EXHIBIT B**

**NTELOS FIVE-YEAR BUILD PLAN AND MAP**

NTELLOS - FIVE YEAR BUILDOUT PLAN IN VIRGINIA

Wire Center	Name	2007		2008		2009		2010		2011						
		Signal Quality	2007 Capacity	2007 Coverage	Signal Quality	2008 Capacity	2008 Coverage	Signal Quality	2009 Capacity	2009 Coverage	Signal Quality	2010 Capacity	2010 Coverage	Signal Quality	2011 Capacity	2011 Coverage
AMHRVAXA	Amherst	\$0	\$544,340	\$193,847	\$0	\$176,355	\$172,005	\$0	\$13,298	\$107,255	\$0	\$10,088	\$107,830	\$0	\$9,868	\$107,830
APMTVAXA	Appomattox	\$0	\$16,859	\$95,205	\$0	\$123,645	\$194,623	\$0	\$9,323	\$85,804	\$0	\$7,073	\$86,264	\$0	\$6,918	\$86,264
BCHNVABH	Buchanan	\$0	\$13,418	\$84,940	\$0	\$129,022	\$150,664	\$0	\$9,729	\$85,804	\$0	\$7,380	\$86,264	\$0	\$7,219	\$86,264
BDFRVABD	Bedford	\$0	\$52,091	\$197,880	\$0	\$462,429	\$497,228	\$0	\$34,868	\$171,608	\$0	\$26,452	\$172,528	\$0	\$25,875	\$172,528
BEVLVABV	Berryville	\$0	\$772	\$21,235	\$0	\$7,420	\$21,341	\$0	\$560	\$21,451	\$0	\$424	\$21,566	\$0	\$415	\$21,566
BRWRVAXA	Bridgewater	\$0	\$9,964	\$21,235	\$0	\$95,810	\$151,941	\$0	\$7,224	\$21,451	\$0	\$5,480	\$21,566	\$0	\$5,361	\$21,566
BRWYVAXA	Broadway	\$0	\$21,352	\$63,705	\$0	\$205,317	\$64,023	\$0	\$15,481	\$64,353	\$0	\$11,744	\$64,698	\$0	\$11,488	\$64,698
CHHMVACH	Chatham	\$0	\$39,839	\$61,970	\$0	\$126,521	\$64,023	\$0	\$9,540	\$64,353	\$0	\$7,237	\$64,698	\$0	\$7,079	\$64,698
CRTDVAXA	Crittenden	\$750	\$9,292	\$339,449	\$0	\$11,241	\$76,782	\$0	\$6,887	\$77,445	\$0	\$7,796	\$78,150	\$0	\$7,638	\$78,150
DBLNVADU	Dublin	\$0	\$18,175	\$42,470	\$0	\$174,770	\$107,982	\$0	\$13,178	\$42,902	\$0	\$9,997	\$43,132	\$0	\$9,779	\$43,132
DSPA VAXA	Disputanta	\$0	\$0	\$25,387	\$0	\$0	\$25,594	\$0	\$0	\$25,815	\$0	\$0	\$26,050	\$0	\$0	\$26,050
DSWLVAXA	Doswell	\$0	\$1,749	\$25,387	\$0	\$2,116	\$25,594	\$0	\$1,296	\$25,815	\$0	\$1,467	\$26,050	\$0	\$1,438	\$26,050
DYTNVAXA	Dayton	\$0	\$16,904	\$21,235	\$0	\$162,544	\$21,341	\$0	\$12,256	\$21,451	\$0	\$9,298	\$21,566	\$0	\$9,095	\$21,566
EDOMVAXA	Edom	\$0	\$16,558	\$53,970	\$0	\$150,564	\$42,682	\$0	\$11,353	\$42,902	\$0	\$8,612	\$43,132	\$0	\$8,425	\$43,132
EKTNVAXA	Elkton	\$0	\$7,477	\$21,235	\$0	\$71,899	\$151,941	\$0	\$5,421	\$21,451	\$0	\$4,113	\$21,566	\$0	\$4,023	\$21,566
FKLNVAXB	Franklin	\$0	\$5,387	\$25,387	\$0	\$6,517	\$90,894	\$0	\$3,993	\$25,815	\$0	\$4,519	\$26,050	\$0	\$4,428	\$26,050
GLCSVAXA	Gloucester	\$0	\$65,655	\$50,774	\$0	\$64,658	\$377,688	\$0	\$39,615	\$51,630	\$0	\$44,840	\$52,100	\$0	\$43,936	\$52,100
GNWDVAGW	Greenwood	\$0	\$17,205	\$42,470	\$0	\$165,437	\$42,682	\$0	\$12,474	\$42,902	\$0	\$9,463	\$43,132	\$0	\$9,257	\$43,132
GRTSVAXA	Grottoes	\$0	\$652,985	\$172,612	\$0	\$182,549	\$85,364	\$0	\$13,765	\$85,804	\$0	\$10,442	\$86,264	\$0	\$10,214	\$86,264
HAYSVAXA	Hayes	\$0	\$3,808	\$25,387	\$0	\$0	\$90,894	\$0	\$0	\$25,815	\$0	\$0	\$26,050	\$0	\$0	\$26,050
HRBGVAXA	Harrisonburg	\$0	\$394,577	\$192,481	\$0	\$745,954	\$149,387	\$0	\$56,247	\$150,157	\$0	\$42,669	\$150,962	\$0	\$41,739	\$150,962
IVORVAXA	Ivor	\$0	\$0	\$25,387	\$0	\$0	\$25,594	\$0	\$0	\$25,815	\$0	\$0	\$26,050	\$0	\$0	\$26,050
LDYSVAXA	Ladysmith	\$0	\$4,496	\$101,548	\$0	\$5,439	\$232,976	\$0	\$3,333	\$103,260	\$0	\$3,772	\$104,200	\$0	\$3,696	\$104,200
LVTNVALN	Loyston	\$0	\$9,060	\$169,880	\$0	\$87,115	\$279,987	\$0	\$6,569	\$171,608	\$0	\$4,983	\$172,528	\$0	\$4,874	\$172,528
MDSNVAMA	Madison	\$0	\$4,197	\$42,470	\$0	\$35,418	\$42,682	\$0	\$2,671	\$42,902	\$0	\$2,026	\$43,132	\$0	\$1,982	\$43,132
MGVLVAXA	McGaheysville	\$0	\$281,979	\$179,776	\$0	\$173,838	\$85,364	\$0	\$13,108	\$85,804	\$0	\$9,944	\$86,264	\$0	\$9,727	\$86,264
MNKNVAMN	Manakin	\$0	\$10,204	\$76,161	\$0	\$12,344	\$272,682	\$0	\$7,563	\$77,445	\$0	\$8,561	\$78,150	\$0	\$8,388	\$78,150
NRWSVANA	Narrows	\$0	\$6,735	\$42,470	\$0	\$32,950	\$42,682	\$0	\$2,485	\$42,902	\$0	\$1,885	\$43,132	\$0	\$1,844	\$43,132
PWHTVAPW	Powhatan	\$0	\$12,726	\$76,161	\$0	\$12,250	\$337,982	\$0	\$7,505	\$77,445	\$0	\$8,495	\$78,150	\$0	\$8,324	\$78,150
RPHNVAXA	Raphine	\$0	\$25,633	\$42,470	\$0	\$179,166	\$42,682	\$0	\$13,510	\$42,902	\$0	\$10,249	\$43,132	\$0	\$10,025	\$43,132
SMFDVAXA	Smithfield	\$0	\$22,528	\$221,644	\$0	\$22,647	\$167,676	\$0	\$13,875	\$103,260	\$0	\$15,705	\$104,200	\$0	\$15,389	\$104,200
SNMTVASM	Stone Mountain	\$0	\$9,954	\$106,175	\$0	\$95,712	\$237,305	\$0	\$7,217	\$107,255	\$0	\$5,475	\$107,830	\$0	\$5,355	\$107,830
STCKVAXA	Stony Creek	\$0	\$776	\$76,161	\$0	\$938	\$76,782	\$0	\$575	\$77,445	\$0	\$651	\$78,150	\$0	\$638	\$78,150
STCVVASC	Stephens City	\$0	\$6,629	\$84,940	\$0	\$63,743	\$85,364	\$0	\$4,806	\$85,804	\$0	\$3,646	\$86,264	\$0	\$3,567	\$86,264
STDVRVSD	Stuarts Draft	\$0	\$105,619	\$84,940	\$0	\$767,005	\$85,364	\$0	\$57,834	\$85,804	\$0	\$43,874	\$86,264	\$0	\$42,917	\$86,264
STTNVAVE	Verona	\$0	\$45,161	\$96,940	\$0	\$366,946	\$85,364	\$0	\$27,669	\$85,804	\$0	\$20,990	\$86,264	\$0	\$20,532	\$86,264
SWVLVASV	Stewartsville	\$0	\$130,903	\$148,645	\$0	\$307,730	\$149,387	\$0	\$23,204	\$150,157	\$0	\$17,603	\$150,962	\$0	\$17,219	\$150,962
TOANVATO	Toano	\$0	\$6,849	\$76,161	\$0	\$8,286	\$207,382	\$0	\$5,077	\$77,445	\$0	\$5,746	\$78,150	\$0	\$5,630	\$78,150
WKFDVAXA	Wakefield	\$0	\$2,233	\$25,387	\$0	\$2,702	\$25,594	\$0	\$1,655	\$25,815	\$0	\$1,874	\$26,050	\$0	\$1,836	\$26,050
WNDSVAXA	Windsor	\$0	\$5,137	\$50,774	\$0	\$6,215	\$51,188	\$0	\$3,808	\$51,630	\$0	\$4,310	\$52,100	\$0	\$4,223	\$52,100
WNTRVAWG	Wintergreen	\$0	\$1,282	\$21,235	\$0	\$12,324	\$217,241	\$0	\$929	\$21,451	\$0	\$705	\$21,566	\$0	\$690	\$21,566
WVRLVAWV	Waverly	\$0	\$0	\$25,387	\$0	\$0	\$25,594	\$0	\$0	\$25,815	\$0	\$0	\$26,050	\$0	\$0	\$26,050
WYCVVAXA	Weyers Cave	\$0	\$14,218	\$21,235	\$0	\$136,720	\$151,941	\$0	\$10,309	\$21,451	\$0	\$7,821	\$21,566	\$0	\$7,650	\$21,566
Column Totals		\$750	\$2,614,724	\$3,574,208	\$0	\$5,394,258	\$5,533,486	\$0	\$490,206	\$2,851,202	\$0	\$407,409	\$2,869,772	\$0	\$398,700	\$2,869,772
Yearly Totals		\$6,189,682		\$10,927,744		\$3,341,408		\$3,277,181		\$3,268,472						

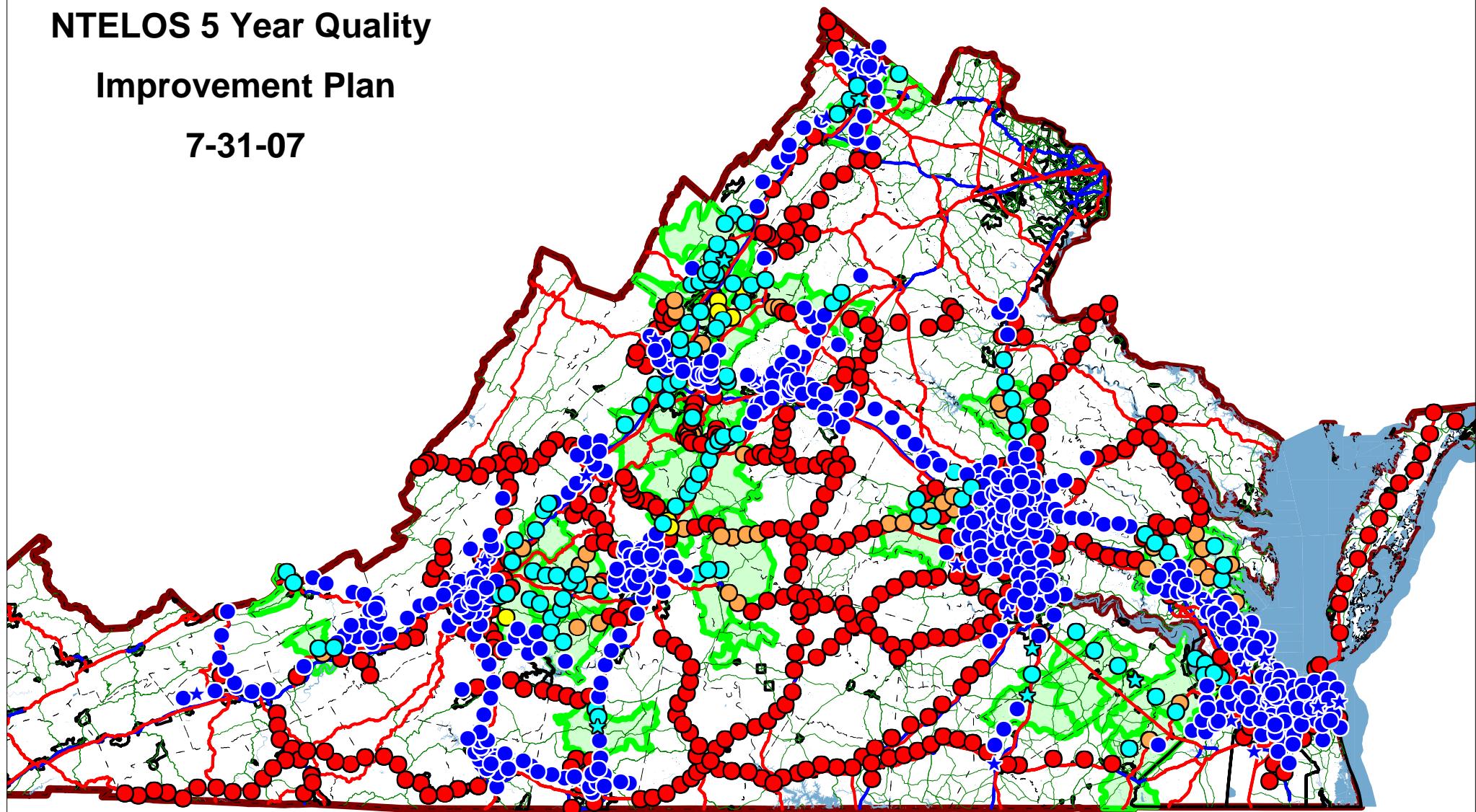
## Notes

- 1 - 2007 new coverage sites are budgeted and we are currently targeting activation by end of year.
  - 2 - 2008 new coverage sites have not been approved at this time.
  - 3 - Capacity dollars are estimates based on the need for additional channel cards and carriers. In reality dollars will probably shift between years and markets (for example, we may spend more in 2007 in the Waverly wire center than our estimate but less in Stuarts Draft and vice-versa in 2008).
  - 4 - All capacity dollars are estimates and will vary based on actual usage and subscriber growth.
  - 5 - 2008 capacity dollars include costs associated with the EV-DO project which has not yet been approved.
  - 6 - 2009-2011 totals are dependent on 2008 growth and can/will fluctuate based on projects completed in 2008 or pushed to future years.

# NTELOS 5 Year Quality

## Improvement Plan

7-31-07



- Current Site on Air - ETC Payout Area
- ★ Current Repeater on Air - ETC Payout Area
- Current Site on Air - Non ETC Payout Area
- ★ Current Repeater on Air- Non ETC - Non ETC Payout Area
- Planned Site - ETC Payout Area
- Proposed Site - ETC Payout Area
- Proposed Site - Non ETC Payout Area
- Current NTELOS ETC Payout Area

**EXHIBIT C**

**NTELOS MAJOR OUTAGE REPORT**

# Major Outages -- January 1, 2006 through December 31, 2006

Date	Time Start	Time End	Duration	Geographic area	Element	Event	Impact	Root Cause/Resolution	Reported Trouble Tickets Per Tech Support (Reflects all tickets recorded by NTELLOS for event and is not limited to ETC region being evaluated)	Number of customers potentially affected
2/17/2006	12:56pm	5:00pm	28 hrs 04 mins	Norfolk, Fredericksburg, and Richmond BTAs	Pre-pay	Balance message problems were attributable to downloading PRL563 to 24,000 pre-pay customers in lieu of PRL553.	Balance message interrupts calls.	Wrong PRL was distributed to 24,000 pre-pay customers . Downloads with the incorrect PRL were completed at approx 2:30 PM on 2/18/2006 and the downloads with the corrected PRL were completed at approx. 8:15 PM on 2/19/2006.	136	24000
2/20/2006	10:50am	12:00noon	73 hrs 10 mins	Norfolk, Fredericksburg, and Richmond BTAs	Pre-pay	Prepay Outage	*Your call is in progress* message interrupts calls.	Verisign issue	71	65306
2/21/2006	9:16am	10:30am	1 hrs 14 mins	Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	Pre-pay Long distance	When translations for the VRSU were placed in service, LD calls that should have been routed to AT&T failed.	Prepay subscribers placing LD calls that should route to AT&T would prompt the customer to put in the dialed digits a second time before the call would complete. Via our SS7 analyzer, we identified a total of 365 such calls originated by 141 different subscribers.	Engineer performing this activity was not aware that the default CAC had been changed at the time we switched from Global Crossing to AT&T. A thorough comparison of new translations with old translations was not done. Testing to a code that we would route to AT&T was not done. The LD code used for testing was one that was least cost routed.	21	25475
3/17/2006	3:48pm	7:26pm	3 hrs 38 mins	Norfolk BTA	AP (applications processor)	System switched to standby application processor (AP), and software was corrupted.	Calls do not connect or have long delay (up to ten minutes) to connect.	Applications Processor associated with 8 Norfolk sites was intermittently going into overload condition (which blocked call set-ups). Software was corrupted, and a reboot was required to resolve discrepancy.	71	16393
4/3/2006	7:00am	8:23am	1 hr 15 mins	Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, and Charlottesville BTAs	AgNode 96-2	15 pBTS (packet base transceiver station) sites were out of service	Reported as "Can't Call Out", "No Signal Home Area" and "Not Receiving Calls"	Packet BTs out of service due to PXM-7 discrepancy in AgNode. FRSM-21 dropped all sites associated with the it, but system failed to autonomously switch to FRSM-22. FRSM-21 was removed to force system to FRSM-22.	10	16785
4/6/2006	8:15am	9:21am	1 hr 6 mins	Norfolk, Richmond, Fredericksburg, Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	Pre-pay	SmartPay outage following new patch release associated with follow-up maintenance for 2006.a.	Pre-pay customers could not call out (dead air) or receive calls (fast busy).	After an upgrade was completed, a single market server was used to monitor the changes activated. The VRSUs detected CPM was running again and connected to it. Normally, twenty market servers are activated, but, in this case, only one market server was up. All four VRSUs connected connected twenty times each to the single market server. When call volume increased, it exceeded the limits of a single market server and caused the CPM to hang. Patch had to be backed out.	109	90781
4/8/2006	2:00pm	11:49am	21 hrs 49 mins	Norfolk, Richmond, Fredericksburg, Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	MMS (Picture Messaging)	MMS switched to secondary unit -not all of the application process switched	Not able to send or receive picture messages	SUN Clustering was not working correctly to allow all MMS application processes to switch from primary to secondary MMS node.	11	224344
4/12/2006	7:36am	9:30am	1 hr 54 mins	Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	Voicemail	Waynesboro MVP2 outage	Wireless phone calling voicemail gets "Please enter your mailbox number".	The path between MVP1 and MVP2 was hung up and had to be reset.	21	91008
5/23/2006	5:55pm	1:40am	7 hrs 45 mins	Harrisonburg	OC-48	Ntelos OC-48 card failed--seven BTS sites out of service	Customer unable to call out or receive calls or find signal in Harrisonburg.	OC-48 card failed and disrupted back-haul for seven sites	17	3987
5/25/2006	7:03am	12:00noon	4 hrs 57 mins	Norfolk BTA	APs (application processors)	Final commit of ECP 24 was being completed. (APs are installed in pairs to provide redundancy and each AP generally supports half the sites assigned to a pair, but to be fully redundant, no AP should carry more than 45% of its capacity.) In order to load new GUI and patch associated with ECP 24 commit, one AP in each pair had to be taken off-line. The traffic associated with AP pairs at time of upgrade exceeded capacity of single APs, so APs went into overload. AP2 was initially affected, but as traffic grew through morning hours, APs 4, 6, and 8 also went into overload.	Customers unable to call out, receive calls or text message.	Work was not completed during maintenance window.	279	89080
6/9/2006	2:00	7:50	5 hr 50 mins	Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	MSC	When a SOC was activated to perform WLNPs dips on MDN, some feature codes did not work, and issues were reported with prepay and Sprint termination. After receipt of trouble tickets, feature was deactivated.	Inability of NTELLOS and Sprint subscribers homed to the Waynesboro and Charleston switches to use feature codes (primarily manipulation of call forwarding and caller ID presentation). There were also some issue with Ntelos prepay and Sprint terminations.	Nortel "Enhanced GTT Roaming" feature disrupted correct feature code functioning . Termination issues appear related to VLRs that become corrupted as a part of feature activation. Those issues can be resolved by deleting all VLRs after feature activation.	24 NTELLOS and 100 Sprint	91008
07/17/06	1:00am	1:00am	33 days	Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, and Charlottesville BTAs	Packet Base Stations/Nokia handsets	Loaded R2.17.0.55.28 to packet base stations (starting 7/17/06 in WV and 7/20/06 in VA). Tech support received first Nokia SMS trouble ticket on 7/26/06. Operations was preparing for MM II integration, so they were rapidly expanding size of packet base station clusters around Charleston, WV and Roanoke, VA. Operations team was contacted on 8/10/06 about SMS complaints. Software patch R2.17.0.55.29 was loaded on 8/18/06 after being released by Motorola to resolve discrepancy.	Handsets sending SMS traffic over paging channel were unable to send text messages via a packet base station. All troubles reported were for Nokia handsets sending messages that were between 3 and 13 characters in length.	When text messages between 3 and 13 characters in length were sent to packet base stations loaded with R2.17.0.55.28, it was possible that pBTS would form a corrupt byte of data that could not be processed. Problem only manifested itself in handsets configured to allow SMS messaging sent across the paging channel. R2.17.0.55.28 software was discrepant. Software patch R2.17.0.55.29 corrected the discrepancy.	51	16785
07/23/06	4:30pm	6:06pm	1 hr 36 mins	Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	Tellabs 5500 Dacs	Tellabs NCB discrepancy	Degraded voice quality on all mobile to land and land to mobile calls.	A defective Tellabs NCB card caused the 5500 Dacs to lose synchronization.	159	91008
08/13/06	1:52 PM	6:54 PM	53 hrs 2 mins	Danville, Harrisonburg, and Roanoke BTAs	CBSC-961	On Sunday August 13, 2006 at 13:52, BTS-112 sent a large number of bad registrations and the threshold limit (RegMax) for CBSC-961 was exceeded. Upon reaching the RegMax limit, the system failed to decrement the bad registrations due to issues related to R2.17.0.55.28 (which was loaded in July). New registrations would not occur, except for autonomous registrations that were associated with call originations. Inbound calls to subscribers not registered on network went directly to voice mail. For temporary relief, RegMax threshold was increased at 18:54 on 8/15/06. At 23:12 on 8/15/06, commands to kill call processing were executed to reset RegMax counter. Software patch R2.17.0.55.29 was loaded on 8/18/06 after being released by Motorola to prevent discrepancy from reoccurring.	Once registration limit on CBSC-961 was reached, only registrations associated with call originations were permitted on CBSC-961. Calls to customers that were not registered on network would go straight to voice mail. Customers without a valid registration could not get a new registration while in the area served by CBSC-961 without originating a call. Other registration attempts were blocked.	This issue was associated with Software R2.17.0.55.28. Software didn't affectively handle bad registrations. Software patch R2.17.0.55.29 was loaded to prevent problem from reoccurring.	201	21211
08/23/06	3:41pm	5:14pm	1 hr 33 mins	Norfolk, Richmond, Fredericksburg, Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	MMS or Brew	Customers unable to connect to Brew or send/receive picture messages	Received an error message of "1287" or "534" when attempting to connect.	An issue with the Home Agent stopped all data services from access to the Ntelos network elements and Internet.	22	224344

**Major Outages -- January 1, 2006 through December 31, 2006**

Date	Time Start	Time End	Duration	Geographic area	Element	Event	Impact	Root Cause/Resolution	Reported Trouble Tickets Per Tech Support (Reflects all tickets recorded by NTELLOS for event and is not limited to ETC region being evaluated)	Number of customers potentially affected
08/23/06	9:20am	Varied	Approx. 2 hrs	Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	Tellabs 5500	Following a brief DACS failure (<10 seconds), several BTS components went out of service and had to be manually restored.	Impact varied depending on base transceiver station components that were impacted. Troubles were spread throughout Virginia West market.	NTELLOS followed Tellabs recommendations for upgrading to current software release. This involved skipping an intermediate software release. Tellabs process was flawed, and problems developed because of this process (not the actual software). Tellabs sent a technician to Waynesboro and modules were reset on 8/28/06 to prevent a similar failure.	183	91008
09/20/06	11:57am	5:49pm	5 hrs 52 mins	Richmond and Fredericksburg BTAs	Voicemail	Patch was loaded to voicemail platform for digital networking. Trunks became unstable. Patch was backed out. Glenayre voice mail platform was reset. Trunks began to restore after platform reset. Richmond customers were unable to access their voicemail or receive new voice mail messages.	Recording says: "the voice mailbox of the customer you are calling is unable to answer at this time due to technical difficulties."	New digital networking patch caused instability.	33	44256
09/23/06	9:10am	7:15pm	10 hrs 5 mins	Norfolk, Richmond, Fredericksburg, Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	SMSC	Due to an influx of numbers from WIG to SMSC, there was an object fail-over.	Customers were able to receive text messages, but outbound SMS messages failed. Error message: "Sending Failed. Status 35. General (or Network) Problems"	Airwide was contacted and discovered that there was an overload, so Node 2 wasn't delivering any traffic. Airwide restarted the SMSC and messages began being delivered.	361	224344
10/23/06	3:04pm	7:20pm	4 hrs 16 mins	Norfolk BTA	Tellabs Echo Canceller Control Board	Each Tellabs echo canceller has two control boards: one active and one standby. An active control board entered a discrepant state, and we lost a DS3 for type II trunks. The DS3 wasn't fully utilized, but 300+ members were impacted. The loss of the DS3 resulted in trunk limitations and increased set-up times, and this increased the load on the Lucent APs. APs are installed in pairs, and the load on each AP is supposed to be limited to approximately 40% utilization, so when one AP fails the other AP in the pair can support the entire load. We had eight sites installed on the AP pair. AP 3 was typically 50% loaded, and AP 4 was typically 40% loaded. With the increased set-up times, both AP3 and AP4 experienced overload conditions which impacted the following base transceiver stations: 8, 21, 22, 35, 59, 109, 112, and 119. Echo canceller controller boards were swapped to correct discrepancy, and some base stations were subsequently reprogrammed to reduce likelihood of recurrence.	Outbound call attempts received on core sites in Norfolk and Portsmouth received "call failed", and customers had to try several times before they were able to successfully connect. Outbound text messages also failed.	Tellabs Echo Canceller control board entered a corrupted state. This reduced available Type II trunks. Set-up times increased and consequently the load on the APs increased. Lucent AP pair 3 and 4 was unable to support higher load, and they entered overload state. This disrupted service to calling area supported by eight sites using AP pair 3 and 4. (Verizon reported a DS3 outage at their Chinese Corners facility at the same time that the Tellabs control board entered corrupted state, and this impeded troubleshooting efforts, as switch technician incorrectly assumed the issues were related.)	96	10529
11/02/06	5:45pm	9:30pm	3 hrs 45 mins	Norfolk BTA	AP3 (Application Processor 3)	AP3 was discrepant. Eight cell sites (BTS 8, 22, 38, 41, 46, 47, 49 and 115) in the Hampton Roads area are associated with the AP3/AP4 pair. Technicians experienced problem restoring AP3, so AP3 was reset on a few occasions (which disrupted call processing). Failure occurred during rush hour, so AP4 was strained to support all traffic for pair.	Customers experienced delayed call setups, some outbound call attempts received the "call failed" message and often customer had to try several times before their call would connect. Outbound text messaging was also impacted.	AP3 failure in the Norfolk MSC was the root cause. During the restoration process, AP3 was reset. The resetting of these APs caused the sites associated with them to bounce and drop all calls on the sites. Call processing was affected while the sites restored.	211	10703
11/23/06	9:01pm	11:50pm	2 hrs 49 mins	Norfolk BTA	CDN 4	Call processing failing in the Hampton Roads area.	All call processing was halted on the Norfolk MSC	CDN 4 in the Norfolk MSC experienced a transient hardware memory failure.	152	89080
12/04/2006	4:10pm	10:54am	90 hrs 44 mins	Norfolk BTA	Norfolk ECP	During a Cavalier direct connect cut-over, NTELLOS' Wireless changed routing in accordance with documents provided by Cavalier. Cavalier incorrectly claimed codes that they did not control. After receiving trouble tickets, Wireless Engineering found the discrepancy and corrected route settings.	Customers in the 757 area calling landline numbers such as their home phone received messages such as "the number you are calling is not in service" or "your call cannot be completed as dialed...NR".	Discrepancy was caused by incorrect routing setting.	25	89080
12/04/06	7:10am	9:20am	2 hr 10 mins	Danville, Lynchburg, Martinsville, Roanoke, Staunton-Waynesboro, Charlottesville, Harrisonburg, and Winchester BTAs	Voicemail	One of the two SS7 links to the Glenayre voice mail platform failed. Voicemail platform is served by two redundant links, and the SS7 outage was not service-affecting. The Switch Tech, working with remote Glenayre support, replaced a defective card to eliminate SS7 discrepancy. Almost immediately, trouble tickets started to be reported. Wireless engineers contacted remote Glenayre support, and they found the system had reset and LSP ("Large system platform") functionality was disabled. LSP provides mechanism to integrate two 4240 platforms together with one HDMU. Glenayre re-enabled LSP functionality to resolve discrepancy.	The voicemail platform has two sides (MVP1 and MVP2). If the customer accessed the platform on one side and their mailbox was on the other side, they received the open tree greeting (i.e., they were prompted to enter their voicemail box number).	Following the replacement of a discrepant network card, the voicemail platform reset and LSP ("Large System Platform") functionality was disabled.	57	91008
12/09/2006	9:09am	17:33pm	8 hrs 24 mins	Richmond and Fredericksburg BTAs	Voicemail	Active Waynesboro SS7 link failed due to fiber cut. Redundant link failed to work due to discrepant card. Once system tried to switch to discrepant card, additional problems developed as platform kept rebooting. Discrepant card was disabled, so link could be reestablished with original card. Replacement card was received and installed to ensure future redundancy.	Callers directed to voicemail platform would get the message "please enter your voicemail box".	A redundant SS7 CPU board which terminates the Troutville SS7 in the Richmond Glenayre failed causing a total system outage to the voicemail platform.	9 - Hampton Roads / 590 - Richmond	44256